BEFORE THE PUBLIC SERVICE COMMISSION,THE DEPARMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, THE OFFICE OF MANAGEMENT AND BUDGET, AND CONTROLLER GENERAL OF THE STATE OF DELAWARE

PSC DOCKET NO. 06-241, REVIEW AND APPROVAL OF THE REQUEST FOR PROPOSALS FOR THE CONSTRUCTION OF NEW GENERATION RESOURCES UNDER 26 DEL. C. § 1007(d)

Recommendation on PPA

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Introduction

On December 10, 2007, a draft Power Purchase Agreement (PPA or Agreement) between Delmarva Power and Bluewater Wind for new power generation was made public. We were provided only a limited period in which to review that lengthy and detailed Agreement and even less time to review the Arbitrator's report (and we have not yet seen the independent consultant's report).[1] Nevertheless, it is apparent that Delmarva Power, Bluewater, and the Public Service Commission (PSC) staff must be commended for producing an agreement that is consistent with the desires and directive of the PSC, the Office of Management and Budget, the Controller General, and DNREC within the short-time frame provided by those agencies. The Arbitrator should be signaled out as well for his work during the negotiations and for producing a report that is clear, thoughtful, concise yet thorough, and that provides a sense of what went on "in the room." I provide my overall recommendation followed by several supporting points (comparable prices is addressed in a separate filing).

Recommendation

Fundamentally, the PPA is very similar to the proposal which the four agencies selected as the winning bid in May and improves upon that winning bid as well as the terms sheets of the hearing of Nov 20 (the term sheet) that the four agencies deemed strong enough to order Delmarva and Bluewater to consummate the present PPA. As I detail below, the wind bid is now stronger and smarter. I thus recommend the four state agencies immediately finalize and approve the PPA between Delmarva Power and Bluewater Wind.

The PPA is stronger than the May bid and the November term sheets because the impact on consumers has decreased (the net present value (NPV) of wind above the hypothetical "market" price has decreased from $493 million in May to $271 million in October to perhaps $255 million now).

The PPA also is smarter than prior wind proposals brought before the agencies. Delmarva has committed to buying all of the renewable energy credits (RECs) associated with the energy purchase, and agreed to permit the wind project to interconnect at Indian River rather than at Bethany and to be responsible for upgrades to the Indian River substation. Both decisions are

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[1] Given that participants Bluewater Wind and Delmarva Power, the PSC staff and the Public Advocate have all been privy to the negotiations and thus have more information and a have had a longer time period in which to formulate their comments, we would ask the agencies for their indulgence and to grant us sufficient, equal time to make our arguments orally on December 18.

possible due to the cooperation with Delmarva, the latter critically uses Delmarva right-of-way. These changes would be expected to lower price in the PPA, as is in fact observed.

As I and others have noted, if offshore wind power does not come to Delaware (and to other mid-Atlantic states), Delawareans will be at risk of a REC shortfall, which would have substantial negative financial implications for Delmarva customers. Indeed, if the wind bid did not make sense to some last spring, it should by now, given Senator McDowell's success during summer 2007 in obtaining increased Renewable Portfolio Standards (RPS) for Delaware and higher compliance payments for failure to achieve those same standards. The wind project is more compelling now, as failing to proceed with the project would place all Delmarva customers at risk of REC compliance payments that could be as much as $80/MWh (on top of the cost of energy). Delmarva's decision to purchase all of the RECs associated with its energy purchase rather than a small fraction was thus a prudent action to protect its ratepayers from future compliance penalties. Moreover, Bluewater's sale of all the RECs to Delmarva provides Bluewater with more certainty regarding financial return from the project. This is true even though, paradoxically, given RPS standards in the region, there is a good chance that Bluewater could make more profit by retaining most of the RECs and selling them to Delmarva or other regional distribution companies after RECs shortages emerge. That is, the change in RECs may well lower Bluewater's profit but improve project financing, while Delmarva's greater purchase lowers the risk of RECs penalties, provides price stability for RECs in addition to energy, and insures that REC-complying facilities will be built. As a result, Delmarva's decision to purchase all the RECs also likely contributed to the lower price Bluewater was able to offer for project energy.

I also firmly believe that PPA approval is mandated by law given that the PPA is wholly consistent with the RFP criteria of HB6 (in particular, the primary criteria—price stability and reductions in environmental impacts). Moreover, I caution the agencies against rejecting the PPA at this late date, as to fail to approve the PPA now would open the state agencies to a claim that their decision was arbitrary and capricious.

Given these improvements in the PPA over the bid and the term sheets, I expect the so-called "wind premium" to be negative (a savings) based on realistic assumptions about future natural gas prices and carbon allowance prices or taxes. Nevertheless, even if there is an average monthly household premium in 2007 dollars of $5 (the amount I expect the state's independent consultant to calculate based on (i) downsizing the contribution of the project to load to 24% and (ii) accounting for the reduction in the price, and (iii) the IC's earlier statement that the REC price resulted in neither a net cost nor a net benefit to the ratepayers), my recommendation would not change. That we now have a PPA that plausibly may represent a price savings to consumers is a remarkable result, given that this does not even consider the health savings or economic development benefits of the project.

1. The PPA is a significant improvement for ratepayers over the modified Term Sheet

In the table on page 5, I present the key metrics of the modified Term Sheet Wind proposal (without escalators) and of the PPA side-by-side and compare the two to one another.

In the table, I use real prices rather than nominal prices (which are inflated). Delmarva tends to quote nominal prices, perhaps because they are larger and make the project appear more expensive (that accounts for the difference in the ~$10 per month that I presented based on the ICF report and the ~$17/month figure quoted by Delmarva's lawyer). I believe the better metric is real prices because real prices reflect the way in which consumers actually feel prices. If we go back 25 years, $46.18 at that time (1982) would have the same buying power as $100 today. Yes, people are paying more than twice as much, but because incomes have increased as well over the same time period, people are not restricted in their purchases to less than half today what they could purchase in 1982. For that reason I use real prices, consistently with the independent consultant.

Project Size: Despite Delmarva's complaint about the project size (Delmarva letter 11 Dec 2007), it is readily apparent that the project size has not changed since the term sheet. Moreover, the project size is consistent with the four state agencies' order of May 22, 2007.

Price: The capacity price increased; however, capacity charges comprise only a small fraction of the combined energy+capacity price, and thus, that increase has been more than offset by the energy price decrease. The combined price decreased by 6.6% to an estimated $105.60/MWh in 2007 dollars. The PPA also provides Delmarva with a one-time option to elect to pay for energy only. The energy only price decreased by 4.99% and is now pegged at $104.23/MWh.

Size versus Price: Delmarva complains (Delmarva letter 11 Dec 2007) that the negotiations resulted in a project that is not only too large, but too expensive. However, if the project is smaller, it will result in increased energy costs per kWh; only if it is larger, will those energy costs will decrease. Read together, Delmarva's size and price complaints appear to simply reflect an objection to the offshore wind project in any realistic form or configuration.

RECs: Delmarva has agreed to purchase all RECs associated with the energy it will purchase. I believe this is wise; it reduces risk to both Delmarva and customes, and very likely will reduce retail price to consumers. Thus, the number of RECs it will purchase has increased from 175,000 to about 1,106,000 (based on the amount of energy that the state's consultant estimated that Delmarva would purchase, although it could be as much as 1,357,402 MWh/yr). The price for each individual REC has not changed. The cost of RECs is separate from the energy and capacity prices for the project, as RECs have to be purchased by Delmarva in any event pursuant to Delaware's RPS. The REC price thus only enters into the analysis of cost to the extent that the price that Delmarva is paying is different than the market price. As noted by the IC, "Bluewater sale of RECs provides neither an additional net cost to Delmarva ratepayers nor a net benefit."

Other Environmental Attributes:
In the term sheet, Bluewater was selling each REC to Delmarva for $19.75. Although Bluewater is technically still selling RECs for $19.75, it has agreed to transfer to Delmarva not only the RECs, but "environmental attributes" associated with the energy and capacity delivered to Delmarva. The PPA defines "environmental attributes" broadly to include RECs and "any and all other federal and state permits or other credits, Regional Greenhouse Gas Initiative credits or certificates, benefits, emission reductions, offsets or allowances, howsoever entitled, that are

attributable to the Products delivered to the Buyer pursuant to the Agreement and the Project's displacement of fossil-fuel derived or other energy generation…" Thus, Bluewater has agreed to transfer related carbon allowances that might be allocated to the wind farm to Delmarva. These could be valuable and those benefits would ultimately inure to the ratepayers. This is a new, benefit to Delmarva ratepayers that is not reflected in the listed price of the project, but which will necessarily reduce energy prices to Delmarva customers.

Inflator: The PPA has a conservative 2.5% inflator that is very likely to benefit Delmarva ratepayers. Since 1982, when inflation was brought under control, the CPI has been greater than 2.5% on 17 occasions, at 2.5% twice, and under 2.5% on 6 occasions. It has averaged 3.1% over those 25 years (ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt). If this trend were to continue until 2039, the wind would cost 20% less in real terms in 2039 than it does today. Even over the past 15 years, when inflation has been very slight, it still has averaged 2.8%/year. Thus, ratepayers are likely to see decreasing energy costs from the project in real terms over the life of the PPA (fixed income retirees receiving SSI receive annual increases in SSI tied to the CPI).

In Service Date (Guaranteed Initial Delivery Date and Date Certain): Interestingly, Delmarva does not want the project, but if Delmarva does in fact get the project, it wants the project sooner than set forth in the PPA. Although Delmarva has not explained the logic behind its position, let me say, we all want the project sooner rather than later; presumably Bluewater does as well. And we should expect it will be operational earlier than the dates to which Bluewater has committed. But given the heavy potential penalties (e.g., delay damages and termination) spelled-out in the PPA that Bluewater faces should it fail to meet various deadlines in the PPA, it seems not unreasonable for Bluewater to ensure it has some breathing room to meet the deadlines. There is an inherent tradeoff between default penalties and default dates—if the agencies want earlier deadlines, they need to recognize this tradeoff, and consider less substantial, or more graduated penalties. The table of metrics follows on the next page.

Metric	Term Sheet	PPA	Effect
Project Size	450MW	450MW	Same
Energy Cap at any one hour	300MW	300MW	Same
Capacity Price	$65.23/kW-year	$70.23/kW-year	7.7% increase
Capacity Price (energy=1,106 GWh/yr; capacity=105 MW)	$6.19/MWh	$6.67/MWh	7.7% increase
Energy Price (if purchase capacity)	$105.9/MWh	$98.93/MWh	6.6% decrease
Subtotal (energy + capacity)	**112.13/MWh**	**$105.60/MWh**	**5.8% decrease**
Energy Only Price (no capacity)	**109.71/MWh**	**$104.23/MWh**	**4.99% decrease**
Renewable Energy Credit (REC) price	19.75/REC	$19.75/REC	Same
Number of RECs purchased by Delmarva	175,000	Equal to the amount of energy sold ~1,106,000	Increase by ~931,000
Environmental Attributes transferred to Delmarva	RECs only	**RECs, plus federal and state credits; RGGI credits or certificates; and emissions reductions, offsets and allowances**	**Greatly expanded to include carbon allowances; additional benefit to DP ratepayers for price stability**
Inflation Factor	2.5%	2.5%	**Same (still less than inflation over the past 2, 15 and 25 years)**
Federal permits deadline[2]	Nov. 30, 2011	Nov. 30, 2011	Same
Guaranteed Initial Delivery Date	June 1, 2014	June 1, 2014	Same
Date Certain for Delmarva 30 days notice of termination	Nov. 30, 2015	Nov. 30, 2015	Same
Interconnection	Bethany	Indian River	Lower cost
Bluewater Change in Control (other than public offering or within Babcock & Brown)	Terms not agreed to	Delmarva approval unless entity has gross assets of at least $10 billion	With B & B and this provision, financing is all but assured

[2] There are ways in which this deadline might be extended. For example, Bluewater can have this date extended by 6 months, but then Bluewater risks the “Development Period Security,” which can be as much as $12 million.

2. Customers have expressed a willingness to pay for the project

Beginning in November 2007, Delmarva began to contend that the wind farm project isn't fair to SOS RSCI customers because everyone in the state benefits from the project but only RSCI customers pay. There are several responses. First, almost 82% of all Delaware households are served by Delmarva. With the second agreement with DEMEC, that brings the cumulative percentage of people who will purchase wind up to 90%. Thus, almost all of the households in the state will pay for the wind project.

Second, I have argued for some time that Delmarva and the State consultant's analysis of the rate impact was too narrowly focused on only the RSCI SOS load (see e.g., Jeremy Firestone, Additional Point-Counterpoint on the Independent Consultant Evaluation, Point 27, 6 April 2007). As I noted there, EURCSA used the term SOS and did not anywhere use the terms "residential and small commercial and industrial" or "RSCI" or even "residential customer." I also noted that Delmarva's February 2007 SOS capacity obligation was approximately 1200 MW, of which only 875.6 MW, or 73 percent was residential. Despite my earlier pleas, Delmarva did not analyze the rate impact prior to the May 2007 decision on the bids under an assumption that the costs would be spread over all SOS users. Even when it began asserting the fairness claim, Delmarva did not broaden its analysis to include all SOS users (see Pace Report and ICF November 2007 report). As a consequence, Delmarva present entreaties on behalf of the ratepayers are less than persuasive.

Further, Delmarva has a real conflict of interest in advocating on behalf of the ratepayers. In 2006, its sister company Conectiv supplied 56% of the residential load. Presumably, it would be more difficult for Conectiv to meet that level in future years if the wind power project is constructed. We also know that Delmarva's parent company, PEPCO holdings, has been an active participant in asserting Delmarva's opposition to all bids (Mr. Tom Shaw, PEPCO's COO made the presentation on Delmarva's behalf at the May 8 hearing) and we have recently learned that PEPCO is considering selling Conectiv's generation assets. To the extent the approval of the wind farm may impair the value of those assets, PEPCO would have a further conflict between advocating what is best for the ratepayers and what is best for PEPCO. I am not suggesting that Delmarva has done anything improper only that given its other fiduciary duties, it is perhaps best to look to the Public Advocate and the PSC to ensure that the interests of the ratepayers are being protected.

Notwithstanding Delmarva's newly found concern on the fairness of the PPA to Delmarva's residential ratepayers, Delmarva customers have clearly spoken their preferences—preferences that are relevant to the question over whether or not it is "fair" for them to pay a little more for clean power that will benefit the entire state. Although this is a good policy debate, we have shown that Delmarva SOS customers have said that they would like to do so.

Our scientific survey of Delaware residents undertaken before bids were announced, www.ocean.udel.edu/windpower and our analysis of the survey data document that Delmarva SOS customers would rather pay more for clean power than maintain the status quo. Specifically, if the monthly premium is a minimum of $20 for three years, then 89% of Delmarva customers would prefer wind power to coal and natural gas. In addition, we used our data to simulate the willingness of Delaware residents to pay for offshore wind power at the site selected by Bluewater adjacent to Rehoboth Beach. We find that statewide, residents are willing to pay $555 million dollars (NPV) over the next three years for offshore wind power. As Delmarva customers represent only 81.8% of Delaware households that means that Delmarva customers are willing to pay $454 million (NPV) over the next three years for offshore wind power; (we presume that they would be willing to pay more if we had asked them about spreading premiums over 25 years). In light of the fact that the State's Independent Consultant estimates that the premium of the wind farm over the market price will be less than that amount, Delmarva residential customers as a class will have welfare gains (that is, they will be better off) if the wind farm is built and they pay the premium calculated by the IC. Given that Delmarva's customers tell us they would be better off if the wind farm were built, Delmarva counter-advocacy on behalf of those same customers should be dismissed.

In short, SOS customers have overwhelmingly expressed their preference for an offshore wind bid; other customer classes have either been indifferent or express opposition to any price increases. Thus, we answer the "fairness" question with respect to these data. If anything, it would be unfair to SOS customers to frustrate their strongly expressed preferences.

3. The PPA will create Delaware jobs and have economic development benefits for Delaware

The legislature in HB6 wisely directed the four state agencies to consider only instate generation options given the direct and indirect job creation that would result from such a project and the economic development potential for the state should the agencies elect a new or innovative technology. As it has become increasingly clear that the wind project is a winner from a legal and technical perspective (not to mention that it has garnered widespread and deep public support), Delaware's Department of Economic Development (DEDO) has apparently come to see wind power as a winner for the State's future as well.

Indeed, DEDO recently dispatched a representative to Berlin to attend the European Offshore Wind Conference and Exhibition and to make Delaware better known to manufacturers and suppliers. And offshore wind power is clearly a growth industry; the conference and exhibition was attended by more than 1700 persons and was dedicated to the burgeoning offshore wind industry that has as its goal the installation of 40,000MW of offshore wind power in Europe alone by 2020. We also have recently learned that the economic development potential of wind power is real and tangible. Indeed, with the PPA in hand, and with Delaware's other strengths, Delaware should be a strong contender for the recently announced US-based Vestas R& D facility. Although economic development is not an explicit criterion of HB6, it is a reasonable interpretation of the bill's call for the use of "new technology."

4. Delmarva's contentions

In Delmarva's letter of December 11, Delmarva lists ten provisions in the PPA to which it "cannot agree." I have addressed four of these above (size, price, in service date, and fairness to the SOS customers) and suggest if Delmarva cannot agree, the state agencies order it to comply. I recommend that rather than continue with its "kitchen-sink" approach, Delmarva take a hard look at the other six provisions and whittle its list down to one or, perhaps two items. If

Delmarva takes this approach, I urge them to post their main concern(s) prior to the December 18th meeting. Delmarva should then explain on December 18 what this item(s) is about, explain why these item(s) are of greatest concern, and then make the best argument for the item's modification. Should Delmarva takes this path it would be appropriate for it also to drop the remaining concerns. I nonetheless advise caution that any in-hearing changes that override the considered compromise PPA presented now by the parties, staff, and the arbitrator should not be a "poison pill" that would make the project impossible. Indeed, it is clear from the arbitrator's report, that his is a considered-judgment that should not be over-turned or modified lightly. For that reason I recommend that Delmarva provide early identification of its most important issue(s), and that Bluewater, the arbitrator and others (as necessary) have a chance to respond before any changes are considered by the agencies.

Respectfully submitted,

Jeremy Firestone